

Abstract

An electronic scanning radio direction finding system for accurate direction finding of radio frequency signals using singly or doubly flared cylindrical reflectors surrounded by a circular array of inwardly facing feed horns. The array is operated as a phased array to determine the direction of origin of received signals. The feed horns can also be used to transmit RF signals on very narrowly controlled beams with minimal side lobes. The flared cylindrical reflector and its circular feed horn array may be paired with circular log periodic arrays operable at similar frequency ranges or different frequency ranges to provide more precise direction finding and direction finding of signals at frequencies beyond the range of the flared cylindrical reflector and its circular feed horn array.